

A HISTO-CYTOLOGIC STUDY OF ENDOMETRIUM BY ASPIRATION TECHNIQUE

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The impressive performance of vaginal and cervical smears in detection of early carcinoma of cervix is well known. The high accuracy of the smears bids fair to reduce the mortality from this lesion. In the detection of adenocarcinoma of the endometrium, however, vaginal and cervical smears have proved disappointing. Diagnostic dilatation and curettage, the most reliable method to detect the early endometrial carcinoma and precancerous lesions of the endometrium, requires hospitalisation, besides the risks of anaesthesia. Therefore, an attempt was made to find out the diagnostic accuracy of endometrial aspiration, a simpler and alternative method to obtain the endometrium.

Material and Method

One hundred and fifteen patients in the perimenopausal age attending the Gynae. OPD of Lok Nayak Jaya Prakash Narayan Hospital were studied. Detailed history, general, physical and local examination was made. Uterine aspirate was taken in OPD. Under all aseptic

precautions a cervical smear was taken. Cervix and vagina were then painted with an antiseptic solution. A metal cannula was introduced into the endometrial cavity past the internal os after holding the anterior lip of the cervix with volsellum. A 20 cc. syringe was attached to the cannula and a slow suction was applied. Cannula was then removed and a drop or two of the aspirated material was smeared on a clean glass slide which was immersed in a fixative. The rest of the endometrial aspirate was transferred to a small bottle with the same fixative and was used for making the cell block.

In 95 of these cases D and C or hysterectomy was done subsequently and the endometrial findings compared to those obtained from uterine aspirate.

Results

Age: the patients studied were between the age of 40 and 70 years. Maximum number of them were in the age group of 40-45 years. Though it was easier to do uterine aspiration in younger multiparous patient, but it could be done in the elderly postmenopausal patient without much difficulty. Only in 4 cases it had to be abandoned because of the pain or stenosis of cervix and these were excluded from the study.

Parity: Most of the patients in the study group were multiparous. In 3 nullipa-

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rous and 4 uniparous patients also the cannula could be manipulated into the uterine cavity without much difficulty.

Menstrual History: Forty-three patients were post menopausal and 22 of these did not have any menstrual or bleeding complaint. They attended the hospital either for prolapse of uterus (14 cases) or lump (2 cases) or pain abdomen (6 cases). Aspiration was done to see the adequacy of material for histocytological diagnosis of post menopausal endometrium. Twenty-one patients came with postmenopausal bleeding.

Seventy-two patients were pre-menopausal and attended the OPD for abnormal uterine bleeding. In these cases aspirate was taken in the OPD and patient was admitted for D & C or hysterectomy.

Histocytological Findings

The smears made and stained by a Papanicolaou stain were studied in great detail regarding the phasing of cycle and presence or absence of abnormal and cancer cells.

The cell blocks made, gave, good idea of the endometrium.

Post-Menopausal Group

Adenocarcinoma of the uterus was diagnosed in 1 case of continuous post menopausal bleeding (Fig. 1).

Endometrial hyperplasia was seen in 1 case. In 32 cases the endometrium was in non-secretory phase.

In 9 cases where no-endometrial cells were seen in the aspirate, 3 had no endometrium in D & C also. In two patients, one of whom had hysterectomy later, endometrium was in non-secretory phase. In rest of the 4 cases findings could not be compared as the patients refused D & C or it was not indicated.

Pre-Menopausal Group

In 7 cases, a diagnosis of hyperplasia was made on the study of uterine aspirate and in 6 of these D & C specimen also showed hyperplasia, while in 1 it showed non-secretory endometrium instead of hyperplasia.

Mild adenomatous hyperplasia was missed in 1 case of uterine aspirate which was diagnosed later by D & C. Cystic dilated glands and chronic endometritis were the histopathological findings of D & C material in other 2 cases reported as non-secretory endometrium in uterine aspirate. None of the patients in the pre-menopausal age group had carcinoma and this finding was substantiated by a subsequent D & C or hysterectomy.

Out of the 3 cases with inadequate material on uterine aspirate, 2 showed non-

TABLE I
Findings of Uterine Aspirate in Postmenopausal Patients

Menstrual complaints	No. of cases	Cytological Findings			
		Non-sec. End.	Hyper plastic end.	Adeno. Carci-noma	Inadequate
Non-menstrual complaint	22	17	1	—	4
Continuous bleeding	10	8	—	1	1
Bleeding off and on	4	4	—	—	—
Blood stained discharge	7	3	—	—	4
Total	43	32	1	1	9

secretory endometrium and 1 atrophic endometrium on D & C.

Except in these 6 cases the results of uterine aspiration were same as those of D & C or Hysterectomy and are shown in Table II.

it could be done without much difficulty and these included 2 post-menopausal patients at 70 years also.

Use of paracervical block, parenteral sedation has also been described but because the majority of patients have only

TABLE II
Finding of Uterine Aspirate in Premenopausal Patients

Menstrual Complaints	No. of Cases	Cytologic Findings			
		Non-End	Sec. Hyper Plastic end.	Sec. end.	Inadequate
Menorrhagia	34	28	3	—	3
Irregular bleeding	16	14	2	—	—
Continuous bleeding	11	9	2	—	—
Polymenorrhoea	5	4	—	1	—
Oligemenorrhoea	6	6	—	—	—
Total	72	61	7	1	3

Discussion

While not completely replacing the conventional D & C under anaesthesia, OPD uterine aspiration offers many advantages. The method is acceptable to patients who are not willing for hospitalisation and D & C. The procedure is safe with minimal discomfort and no complications. The occasional cramps in the lower abdomen can easily be treated by analgesics and rest. Jenson (1970) has compared the discomfort with that of insertion of an IUCD.

Regarding the practicability of the procedure, it has been reported that about 10% of attempted vacuum aspiration are abandoned because of pain or inability to cannulate the cervix (Mathews *et al*, 1973). Saunders and Rowland (1972) in a series of 73 cases have reported failure in 5 cases. Jenson (1970) excluded from his series patients who were very apprehensive and those whose servical canal did not admit a uterine sound. In our series procedure had to be abandoned in

4 cases only, while in the rest of 115 cases, mild to moderate discomfort the extra time for the procedure does not require its routine use.

Use of very small diameter flexible metal cannula or polythelene tube 2 to 4 mm in diameter made the aspiration successful in all the 100 cases done by Vassilakos (1975).

The method provided tissue for cell block adequate for histological diagnosis. Inadequate or no sample was obtained in 12 cases, 9 of these were post-menopausal, the endometrium was found to be atrophic in 4 of these on D & C.

Saunders and Rowland (1972) have reported failure to obtain a specimen in 16 cases out of 73, of which 6 were post-menopausal with atrophic endometrium. In 10, it was attributed to inexperience in initial stages.

The diagnostic accuracy of the procedure has been reported from 80% (William and Stewart, 1947) to 99% (Vassilakos *et al*, 1975).

Jameson (1961) has reported that in

experienced hands the accuracy of diagnosis is equal to that of diagnostic D & C while McGowan (1974) states that cytologic methods such as endometrial cellular aspirate may be adequate detectors of frank malignancy but they are unreliable in diagnosing endometrial cancer precursors.

In this series a diagnostic accuracy of 93% was obtained, hyperplasia of endometrium being diagnosed in 8 cases. As a preliminary procedure in all cases of premenopausal and postmenopausal bleeding intrauterine aspiration technique holds promise and must be evaluated by further studies.

Conclusion

Uterine aspiration was tried as a method of obtaining endometrium for histocytological study in 115 cases. It was found to be a simple, safe and acceptable method with a diagnostic accuracy of 93%. It is recommended, however, only as a preliminary procedure in cases of perimenopausal bleeding and suspected cases.

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See Fig. on Art Paper I